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Collapse Details**Antiferroelectric liquid crystal compsn. - having improved threshold voltage, response time and wide temp. operation range**

Assignee: SHOWA SHELL SEKIYU KK Standard company (SHEL...)

Inventor(s): none

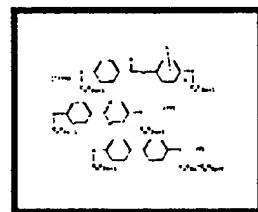
Accession / Update: 1996-218383 / 199622

IPC Class: G02F 1/13 ; C09K 19/20 ; C09K 19/30 ; C09K 19/32 ; C09K 19/34 ; C09K 19/42 ; C09K 19/44 ; C09K 19/46 ;

Derwent Classes: E14; L03; U11; V07; P81;

Manual Codes: E07-D12(Pyrimidine) , E10-F02A(With carbocyclic ring (s) - general) , E10-G02F1(Ester with aromatic ring, use) , E10-H01(Ether and thioether - general) , E10-H04A(F only use - general) , L03-D01D1(Liquid crystal compounds) , U11-A03A(Liquid crystal material, compounds, additives) , V07-K10A(Liquid crystals)

Derwent Abstract (JP8082778A) An antiferroelectric liq.-crystal compsn. contains (A) (a) at least two antiferroelectric liq.-crystal cpds. of formula A-skeleton structure-D (I), or (B) (a) one or more antiferroelectric liq.-crystal cpd(s). of formula (I), and (b) one or more ferroelectric liq.-crystal of formula A-basic skeleton-Q (III). In addition, an agent for improving liq.-crystal characteristics is present in (A) or (B). In the formulae, A = R-, RO-, RCOO-, and RCO-, or R3-O-R4 and R5-CH=CH-R6; R = 2-20C alkyl gp.; when A = R-, part of H in the alkyl gp. may be substituted by halogen; R3 = 1-8C n- alkyl gp.; R4 = a 1-10C n-alkylene gp.; R5 = H, or a 1-5C straight-, or branched-chain alkyl gp.; R6 = a 2-14C straight-, or branched-chain alkyl gp.; D = a gp. selected from -COOCH\*(E)-G, -COOCH\*(E)-Ph, -(CH2)2COOCH\*(E)-G, -(CH2)2COOCH\*(E)-Ph, -COO(CH2)2-CH\*(E)-G or -COO(CH2)2-CH\*(E)-Ph (II); E = a gp. selected from -CF3, -C2F5, -C3F7, CCIF2, CH3, and C2H5; asterisk = asymmetric carbon; G = a 2-20C straight-, or branched-chain alkyl gp.; branched portion = a methyl gp.; a carbon-carbon double bond may be contained in part of the straight chain alkyl; Ph = a gp. selected from -C6H5, -p-C6H4-, -C6H11 or -C6H10-lower alkyl; skeleton structure = a gp. selected from e.g. -(p-C6H4)-COO-(p-C6H4)-, -(p-C6H4)-COO-(p-C6H4)-(p-C6H4)-, -(p-C6H4)-(p-C6H4)-COO-(p-C6H4)-(p-C6H4)-COO-(p-C6H4)-(p-C6H4)-, -(p-C6H4)-(p-C6H4)-COO-(p-C6H4)-(p-C6H4)-, -(p-C6H4)-(p-C6H4)-COO-(p-C6H4)-(p-C6H4)- or -(p-C6H4)-COO-(p-C6H4)-(p-C6H4)- COO-(p-C6H4)-COO-(p-C6H4)-(p-C6H4)- (4). The ferroelectric liq.-crystal cpd. is a cpd. of formula (III) (where A = as formula (I); Q = a gp. selected from formulae -COOCH\*(CF3)R1, or -COO(CH2)nCOOCH\*(CH3)R (46) (12 claimed) and -CH\*(CH3)-



(CH<sub>2</sub>)<sub>n</sub>-CH\*(CH<sub>3</sub>)OR or -Cyclopropyl-R (47) (4 claimed); R<sub>1</sub> = 1-20C alkyl gp.; n = 1-4; basic skeleton = -(p-C<sub>6</sub>H<sub>4</sub>)-COO-(p-C<sub>6</sub>H<sub>4</sub>)- or -(p-C<sub>6</sub>H<sub>4</sub>)-COO-(p-C<sub>6</sub>H<sub>4</sub>)-COO-(m-C<sub>6</sub>H<sub>4</sub>)- (48) (8 claimed) and -(p-C<sub>6</sub>H<sub>4</sub>)-(p-C<sub>6</sub>H<sub>4</sub>)-COO-(p-naphthyl)- or -(p-C<sub>6</sub>H<sub>4</sub>)-(p-C<sub>6</sub>H<sub>4</sub>)-OCH<sub>2</sub>-(p-C<sub>6</sub>H<sub>4</sub>)- (49) (7 claimed).

The agent for improving the liq.-crystal characteristics comprises a non-chiral cpd. selected from cpds. of formula (IIIA) formula (IV), (V), and R<sub>10</sub>COOR<sub>11</sub>(VI). In the formulae, n = 1-3; X and Y = -, O, COO, or OCO; h = H, or F; M = H, yet branched portion may be F<sub>1</sub> p = 2-12 (including branched chain); m = 1 or 2; n = 4-14; X, and Y = -, O, COO, or OCO; m = 4-14, n = 4-14; X and Y = -, O, COO, or OCO; m = 0-13; p = 1-14; R<sub>10</sub> and R<sub>11</sub> = 1-20C alkyl gps. opt. halogen substd..

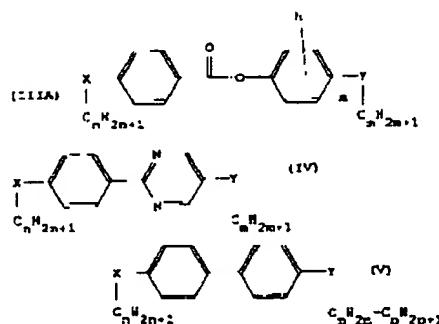
**Use** - The antiferroelectric liq.-crystal compsn. is used for liq.-crystal display device.

**Advantage** - The antiferroelectric liq.-crystal compsn. had dramatically improved threshold value voltage, response time. The use of the agent for improving the liq.-crystal characteristics further improves the threshold value voltage time. The antiferroelectric liq.-crystal compsn. has wide temp. operation range for liq.-crystal display device.

Abstract info:

JP8082778A: Dwg.0/16

Images:



Family:

Patent	Issued	DW Update	Pages	Language	IPC Class
<u>JP8082778A</u> *	March 26, 1996	199622	80	English	G02F 1/13
Local appls.: <u>JP1994000243320</u> ApplDate:1994-09-12 (94JP-0243320)					

Priority Number(s):

Application Number	Application Date	Original Title
JP1994000243320	Sept. 12, 1994	ANTIFERROELECTRIC LIQUID CRYSTAL COMPOSITION

Chemical Indexing Codes:

[M3]01: B505 B514 B605 B614 B712 B713 B720 B721 B731 B741 B744 B793 B803 B831 B834 B840 F012 F015 F019 F163 F211 F431 F541 G010 G013 G015 G017 G019 G020 G021 G029 G035 G039 G040 G100 G111 G112 G113 G221 G299 G563 G599 H5 H521 H522 H541 H542 H543 H561 H581 H582 H583 H600 H601 H602 H608 H609 H641 H642 H643 H681 H682 H683 H684 H685 H686 H689 H722 H731 H8 J011 J012 J013 J014 J211 J221 J231 J232 J241 J242 J251

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Numbers:

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Related Accessions:

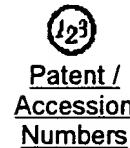
Accession Number	Type	Derwent Update	Derwent Title
C1996-069313	C		
N1996-183347	N		
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Title Terms: LIQUID CRYSTAL COMPOSITION IMPROVE THRESHOLD VOLTAGE  
RESPOND TIME WIDE TEMPERATURE OPERATE RANGE

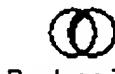
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